Tadiran CNR-710MB

Multi-band radio family for multi-mission communications

Elbit Systems™
C4I and Cyber

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Modern theatres of operation demand real-time coordination between multiple ground, air, and marine forces. In today's complex tactical scenarios, easy-to-use, interoperable and secure communications are mission-critical.

The multi-band Tadiran CNR-710MB from Elbit Systems offers all the combat-proven lightweight reliability that operatives expect, together with an uncompromising level of communications modularity, flexibility and security.

A Military, Combat-Proven, Modular Solution

Designed specifically to meet the challenges of multiple- force engagements, the Tadiran CNR-710MB offers ground, sea, and air units wide frequency band coverage and waveforms – enabling simple and secure voice and data communications with a wide range of forces, units and stations, from a single R/T unit. Offering the most comprehensive feature set of its class, the Tadiran CNR-710MB is combat-proven, already exceeding the expectations of military organizations around the world. The rugged and Lightweight, Tadiran CNR-710MB leverages Tadiran's synchronous-orthogonal frequency hopping technology, and is fully compatible with legacy Tadiran frequency hopping systems like the CNR-710, CNR-900, CNR-9000 and CNR-9000HDR.

A Platform for Growth

Ideal for use at the tactical level, the flexible tadiran CNR-710MB is the basic building block for creation of platoon-level and above voice and data communications infrastructure. With a complete line of add-ons, the Tadiran CNR-710MB is available in variety of configuration packages for land, Sea and Airborne. The Tadiran CNR-710MB enables a full range of communication solutions, from standalone radios to turnkey C^4I systems.

Feature-Rich

Leveraging over 40 years of combat-proven ingenuity, Elbit Systems designed the Tadiran CNR-710MB with features that meet and exceed the rugged demands of military organizations worldwide, including:

Human Engineering

- Simple to operate, with all functions unambiguously identified
- Innovative, menu-driven interface, interactive display-guided operation
- Preset, DATA, COMSEC and ECCM parameters loaded via keyboard, keygun loader or another CNR-710MB
- Visual and audible alerts for security breach protection; frequency hopping indication in fixed frequency mode Clear indication in Secure mode
- Minimum operatior workload under battlefield conditions; auto data rate adaptation, auto synchronization, "clear" override to enable clear reception in SEC mode
- Quick emergency erasure of radio security parameters

Data Communications

- Data communications over the entire frequency band from 30 to 512 MHz
- Powerful data rate and data mode (sync/async) adapter
- Sophisticated and robust error correction and high probability of error-free data transfer under severe communication conditions
- Synchronous and asynchronous modes of operation and interface

Built-in Information Security and Immunity Encryption (COMSEC)

- Very high level of voice and data security (digital encryption)
- Maximum security over the entire frequency band from 30 to 512 MHz

Anti-Jamming (ECCM)

- Frequency hopping over the entire frequency band 30 to 512 MHz
- Synchronous orthogonal frequency hopping minimizes friendly collocation interference and improves anti-jamming immunity
- PTT-oriented, self-distributed synchronization eliminates need for master stations and provides immediate operation readiness
- Very high probability of synchronization and resynchronization under severe jamming conditions
- Spoofing resistant

Special Features (optional)

- SMS-burst for powerful message transmission
- Communication controller enables the radio to work as an IP radio, allowing an IP network to be established over the tactical network
- Built-in Vocoder for high voice quality reception even under poor level channels
- Built-In GPS for system location report
- Scanning - up to 4 preset channels
- Selective call - individual and group communications

Logistic Flexibility

- Easy operational configuration based a common receiver-transmitter
- Reduced equipment down-time and logistical costs
- High MTBF
- Low MTTR; plug-in modular design at LRU and SRU levels

Configurations

The Tadiran CNR-710MB's modular design provides a variety of configurations geared to match any specific operational requirement. Manpack, Vehicular, Base, Marine and Airborne radio sets are easily configured around the common Receiver-Transmitter unit in the following configurations:

PRC-710MB
5w Handheld/Manpack Radio set

PRC-710MB/HP
20w Manpack Radio set

VRC-710MB
5w Vehicular/Base/ Marine Radio set

VRC-710MB/20
20w Vehicular/Base/ Marine/Airborne Radio set

VRC-710MB/50
50w Vehicular/Base/ Marine Radio set

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Optional Ancillaries and Accessories

Elbit Systems offers a variety of optional accessories depending on the configuration and client operational requirement.

- **Power sources**
  - · Batteries - Primary and Rechargeable Lithium Ion batteries
  - · Battery chargers - Electrical, hand crank & solar
  - · Power Supplies - AC/DC & DC/DC
- **Antennas** – Variety of antennas for all configurations
- **Audio** – Standard & Control Handsets, headsets and loudspeakers
- **Remote control** – Variety of solutions depending on required operational scenarios
- **Software application** – Programming, Radio Network Management System (RNMS), Data communication etc.

Specification

General

- Frequency range: 30-512 MHz
- Channel spacing: 25 kHz
- channel offset: 6.25kHz
- Modulation: FM (F3E), AM (A3E), over the entire 30-512 MHz band
- Operation mode: Fixed frequency (FF): CLEAR and encrypted (COMSEC); Frequency hopping (FH): ECCM/ COMSEC, over the entire 30-512 MHz band
- Channels: 20 preset channels
- Scanning: Up to 4 preset channels
- Selective call: Individual and group communications
- Built-in-test (BIT): On-line and operator-initiated test
- Squelch: 150 Hz tone or noise activated
- Power Source:
  - Hand-held/Manpack: LiMn02; Lithium Ion
  - High Power Manpack: Lithium; Lithium Ion
  - Vehicular/Base: 24-28V nominal
- GPS (optional): Embedded GPS
- Vocoder (optional): 2400, 4800 bps
- Comm. Controller (optional): STANAG 4XXX

Environmental:

- Operating temperature: -30°C to +65°C
- Storage temperature: -30°C to +71°C
- Relative humidity: 95%
- Immersion: 1 meter
- Option for undersea operations: -40mt
- Dynamic and mechanical: MIL-STD-810F

Transmitter

- Power output:
  - Hand-held/Manpack: Up to 5W
  - High power manpack: Up to 20W
  - Airborne: Up to 20W
  - Vehicular/Base: Up to 50W

Anti Jamming (EECM)

- Technique: Orthogonal frequency hopping
- Synchronization: Own and homogeneous (w/o master station) Auto resynchronation capability
- Late entry: Without special procedures

Encryption (COMSEC)

- Type: Digital, very long non-linear "white" sequences
- Special characteristics: CLEAR override, COMSEC alarm

Data Communications:

- Type: Synchronous and asynchronous
- Rate: Up to 16 kbps Synchronous
- Interface: RS-232
- Special characteristics: Automatic rate adaptation

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